ISSN No:-2456-2165

Melasma: A Prospective Study of Clinico Etiological and Dermoscopic Pattern in Men

[1.] Dr. Hosalli Amrutha
Junior resident, Department of Dermatology,
JJM Medical College,
Davanagere, India

[2.] Dr. Rashmi AB
Senior resident, Department of Dermatology,
JJM Medical College,
Davanagere, India

[3.] Dr. Nadiga Rajashekhar
Professor, Department of Dermatology,
JJM Medical College,
Davanagere, India

[4.] Dr. Parameshwar Biradar
Junior resident, Department of Dermatology
JJM Medical College,
Davanagere, India

Abstract:-

Background: Melasma is an acquired hypermelanosis commonly seen over face. This condition is more commoner in females. Knowing about the etiology is necessary which helps in further treatment, dermoscopic pattern further helps to know the type of melasma and to know the response to treatment on follow up also helps differentiate from conditions like ochrnosis, lichen planus pigmentosus, riels melanosis. Aim: To find out the various etiological and contributing factors leading to melasma in males as there is paucity of data. Materials and methods: This is a prospective study in which 100 male patients with melasma belonging to the age group 20 to 55 years were selected. Detailed clinical history was taken according to well structured proforma which specifically included history of occupation, number of hours of sun exposure, family history, use any of any topical or systemic mediations, history of any chronic illness. Following which woods lamp, dermoscopy and investigations were done. Results: 60 patients were out door workers among which 38 had 4-6 hours of sun exposure and 22 had 2-4 hours of sun exposure. 31 had family history of melasma, 8 had history of usage of topical steroid creams over hyperpigmented area and 1patient was under phenytoin usage. Malar melasma was seen in 63 patients, centrofacial melasma was seen in 30 patients and mandibular is seen in 7 patients. Anemia and low testosterone levels was seen in 4 patients. Limitation: Genetic are not done, which would help to known the genes responsible for genetic predisposition. Conclusion: melasma is seen more commonly seen in fourth decade of life, in people with Fitzpatrick type 4 skin type. Sun exposure is the major contributing factor.

Keywords:- *Melasma, Men, Clinico Etiological Study.*

I. INTRODUCTION

Melasma is an acquired pigmentary disorder more common in females charecterized by light brown to dark brown patches symmetrically distributed over face(1). There is predilection for sun exposed areas, like cheeks, forehead, upper lip, chin, nose and less commonly seen over neck and forearm as well. It is also seen in women of child bearing age, dark skinned people of hisoanic, asian and African origin(2)(1). Melasma is common cutaneous disorder accounting for 0.24-4% of patients in Southeast asian clinics and most common in Indian population(3). Approximately 26% of Indian patients with melasma, 14.5% of Latino patients with Melasma, 10% of Caucasian patients with melasma and 4% of Korean patients with melasma are men(4). The incidence of disorders of hyperpigmentation is unknown, but they are common, particularly among people with darker skin types(5)

There are various contributing factors associated with disease the etiology is not known. Among there 6 fitzpatrick skin types, it is commonly seen in type 3 and type 4. Clinically melasma can be classifies as centrofacial, malar, mandibular pattern.(3). Malar melasma is seen commonly in men as compared to centrofacial melasma seen in women(2). It can be a source of social stigma and embarrassment in men as it is categorized as disease in pregnant women.

II. MATERIALS AND METHODS

100 male patients with melasma belonging to the age group 20 to 55 years were selected. Detailed clinical history was taken according to well structured proforma which specifically included history of occupation, number of hours of sun exposure, use any of any topical or systemic mediations, use of any cosmetic and if the patient is on anti-epileptics, history of any chronic illness, hepatic or endocrinological disorders, parasitic infestations, nutritional history, family history. General physical examination included detailed examination for anemia, signs of endocrinologocal disorders an d hepatic disorders. Local cutaneous examination was done to note down the type of

ISSN No:-2456-2165

melasma. Woods light and dermoscopic examination was performed . Laboratory investigations included complete hemogram, liver function tests, and hormonal assay.

III. RESULTS

Among 100 patients, maximum number of patients belonged to age group of 31- 40 years range that is 57%, 23% belonged to >40 years range, and 20% belonged to 20-30 years range (table 1).

All patients belonged Fitzpatrick skin type 3-5. Duration of the disease ranged from 1 month to 6 years. 60% patients were out door workers among which 38 patients had 4-6 hours of sun exposure and 22 patients had 2-4 hours of sun exposure, where worsening of condition is seen following sun exposure. 31% had family history of melasma, 8% had history of usage of topical steroid creams over hyperpigmented area and 1% of patient was under phenytoin usage. No patient gives history of parasitic infestation, endocrinological disorder, or any other systemic diseases. Malar melasma(which consists of melasma involving cheeks and nose) is seen in 63%(figure 1), centrofacial melasma(which includes melasma involving the cheeks, forehead, upper lip, nose and chin) was seen in 30%(figure 2) and mandibular melasma(melasma seen over madibular ramus) seen in 7% of patients. It is seen that centrofacial is more common in women and malar is more common in men.(6) (table 2)

Wood's lamp examination helps to know the type of melasma in fitspatrick 1-6(7), epidermal melasma(accentuation of colour, as light emitted by wood's lamp is absorbed by the excess melanin) is seen in 58% of patients, dermal melasma(no accentuation) in 15% and mixed(accentuation is seen in some places and not in others) in 27%. There is also a fourth type called wood's lamp inapparent. (2). (table 2)

Dermoscopic findings were light-to-dark brown background and brown granules and globules with perifollicular sparing have been uniformly in almost all cases(figure 3). The basic pattern may be reticular or pseudoreticular (more common in deeper melasma).The pigment color suggest the depth of melasma, this has been contested although. Dermoscope is a tool which is valueable in the follow-up of melasma treatment. Laboratory investigations showed anemia in 4% patients and increased LH and low testosterone was also found in 4% patients, these findings suggest testicular resistance.

IV. DISCUSSION

Melasma is a common acquired hyperpigmantary condition of skin. It is the most common pigmentary condition seen in Indian population. Women are affected predominantly and it is also seen in males in 10% of cases(3). Although the exact cause of melasma is not known, multiple factors contribute to its etiopathogenesis. In a study conducted by sarkar et al sun light exposure is the main contributing factors, which is similar to findings of our study. Other contributing factors being genetic predisposition, hormonal activity. In females other factors include pregnancy, oral contraceptives, estrogen progesterone therapies, anti seizure drugs thyroid dysfunction , phototoxicities and certain cosmetics like salicylate, citral, oxidized linoleic acid, preservatives.(3) Extensive measurement of hormones in females showed increased in serum LH, and lower levels of serum estradiol and subclinical levels of ovarian dysfunction(8). It is reported that estrogen stimulates estrogen receptors on melanocyte and these cells become hyperactive leading to melasma, although the exact mechanism of melasma is not known(8)(9). Racial factors and genetic factors appear to predominate as suggested by familial occurrence and the fact that the disease is far more common in people of Hispanic, Oriental and Chinese origin(8).

It is seen that skin lesions associated with melasma have more prominent solar elastosis compared with the skin without lesions; which suggests that dermal changes may induce the development of melasma. It was previously suggested that dermal inflammation, induced by accumulation of UV radiation, may be associated with activation of fibroblasts, resulting in the up regulation of the stem cell factor (SCF) in the dermis of melasma lesions, which leads to the increased melanogenesis associated with melasma(4). Studies have showed that both melanocytosis (increased number of melanocytes) as well as increased

melanogenesis (increased production of melanin) are responsible for the hyperpigmentation in melasma(10) (11). Most of females family history, hormones, UV exposure play a role. In males it is suggested that uv radiation exposure, genetic predisposition and subtle testicular resistance play a role. (4)(12). Photodamage of skin is present in melasma but that is often masked by pigmentation.(13). The high circulating LH combined with low circulating Testosterone and an LH/FSH ratio still within the normal range points towards a subtle testicular resistance(14).

In a study by Ravinder Sialy et al the mean circulating LH was significantly higher ($p<0.05$) in patients with melasma than in controls. FSH was not significantly different in both groups. The mean circulatory testosterone in men with melasma was markedly lower (p<.().002) than the in controls. (14)

In a study conducted by sarkar et al similar findings were seen 58.5% of the patients were outdoor workers. 29.3% originally belonged to hilly regions. Clinical patterns were malar in 61%, centrofacial in 29.3% and mandibular in 9.7%. The aetiological factors identified were sunexposure in 48.8%, mustard oil usage in 43.9%, family history in 37%, chronic illnesses in 12.2% and phenytoin in 7.3%. Of these sun-exposure and family history were statistically significant when compared with those for women. Laboratory investigations revealed anaemia in 12.2%, giardiasis in 4.9%, increased leuteinizing hormone (LH) and low testosterone in four 9.7% men.

ISSN No:-2456-2165

V. CONCLUSION

melasma is seen more commonly seen in fourth decade of life in males, more common in people with Fitzpatrick type 4 skin type. Sun exposure is the major contributing factor, other contributing factors are genetic predisposition, hormonal levels which indicate subtle testicular resistance.

DECLARATION

The authors certify that they have obtained all appropriate patient consent forms. In the form the patients has/have given his/her/their consent for his/her/images and other clinical information to be reported in journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity can be guaranteed.

Age group	Number(percentage)
21-30 years	20
31-40 years	57
>40 years	23

Table 1: Percentage of patients belonging to particular age group

Clinical type	Number of patients (percentage)
Centro facial melasma	30
Malar melasma	63
Mandibular melasma	7
Aggravating factors	
Sun exposure	60
Family history	31
Phenytoin usage	1
Other cosmetic usage	8
Wood's lamp examination	
Epidermal	58
Dermal	15
mixed	27

Table 2: various clinical types and parameters and number of patients belonging to each group

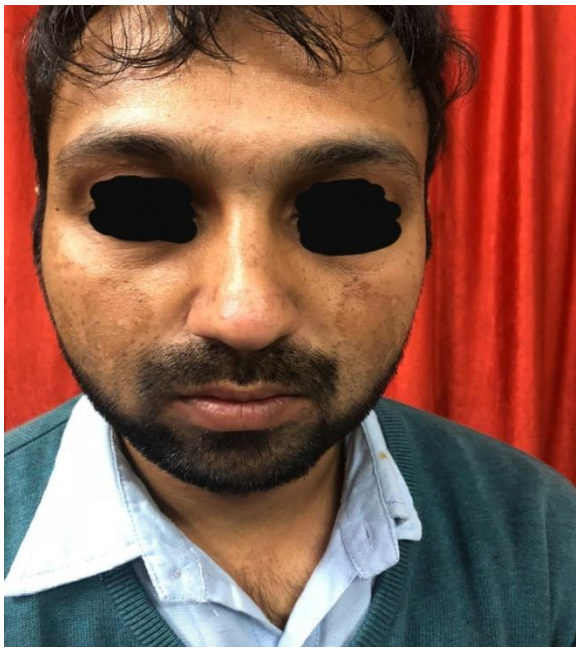

Fig 1:- Malar melasma seen over malar area of cheek

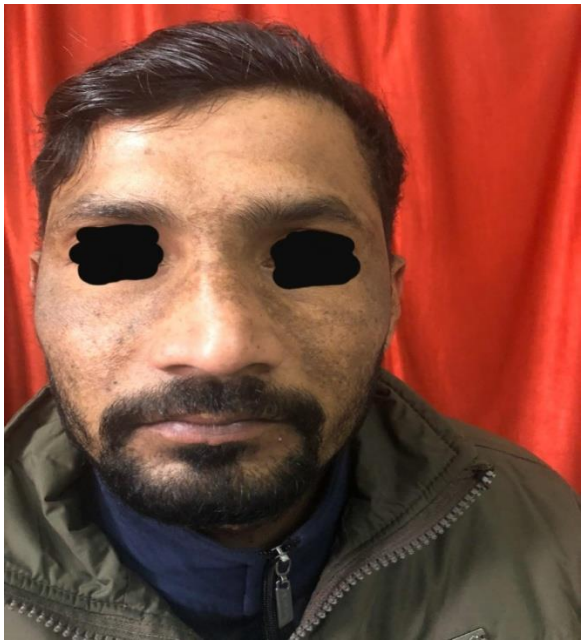

Fig 2:- Centrofacial melasma seen in middle male. Seen over cheek, nose and forehead

ISSN No:-2456-2165

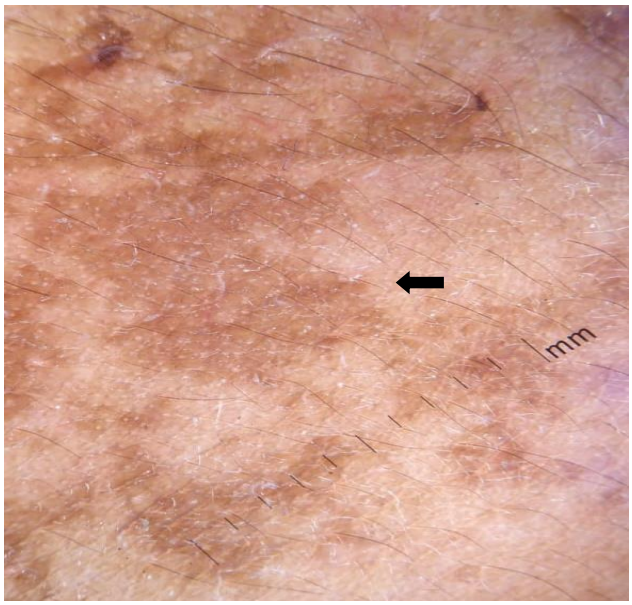

Fig 3:- Dermoscopic image, polarized light under 10x,Perifollicular sparing (white arrow), dark brown blotchy pigmentation (black arrow)

REFERENCES

[1]. Vachiramon V, Suchonwanit P, Thadanipon K. Melasma in men: Melasma in men. J Cosmet Dermatol. 2012 Jun;11(2):151–7.

[2]. Sarkar R, Puri P, Jain R, Singh A, Desai A. Melasma in men: a clinical, aetiological and histological study: Melasma in men. J Eur Acad Dermatol Venereol. 2009 Dec 15;24(7):768–72.

[3]. Charupalli K, Rajasekhar TS, Mukkara M. Clinico-epidemiological study of melasma in men. J Clin Sci Res. 2018 Jan 1;7(1):19.

[4]. Jang YH, Sim JH, Kang HY, Kim YC, Lee E-S. The histopathological characteristics of male melasma: Comparison with female melasma and lentigo. J Am Acad Dermatol. 2012 Apr;66(4):642–9.

[5]. Grimes PE. A Microsponge Formulation of Hydroquinone 4% and Retinol 0.15% in the Treatment of Melasma and Postinflammatory Hyperpigmentation. :7.

[6]. Vachiramon V, Sahawatwong S, Sirithanabadeekul P. Treatment of Melasma in Men With Low-Fluence Q-Switched Neodymium-Doped Yttrium–Aluminum–Garnet Laser Versus Combined Laser and Glycolic Acid Peeling: Dermatol Surg. 2015 Apr;41(4):457–65.

[7]. 7. Lima E de A. Microneedling in facial recalcitrant melasma: report of a series of 22 cases. An Bras Dermatol. 2015 Dec;90(6):919–21.

[8]. Katsambas AD, Stratigos AJ, Lotti TM. Melasma. InEuropean handbook of dermatological treatments 2003 (pp. 336-341).

[9]. Handel AC, Miot LDB, Miot HA. Melasma: a clinical and epidemiological review. An Bras Dermatol. 2014 Sep;89(5):771–82.

[10]. Sarkar R, Arora P, Garg VK, Sonthalia S, Gokhale N. Melasma update. Indian dermatology online journal. 2014 Oct;5(4):426.

[11]. Sarkar R, Ailawadi P, Garg S. Melasma in Men. J Clin Aesthetic Dermatol. 2018 Feb;11(2):53–9.

[12]. Tzouveka E. Epidemiology and Risk Factors of Melasma. 2014;3.

[13]. Guinot C, Cheffai S, Latreille J, Dhaoui M, Youssef S, Jaber K, et al. Aggravating factors for melasma: a prospective study in 197 Tunisian patients. J Eur Acad Dermatol Venereol [Internet]. 2010 Feb [cited 2020 May 16]; Available from: http://doi.wiley.com/10.1111/j.1468-3083.2010.03592.x

[14]. Sialy R, Hassan I, Kaur I, Dash RJ. Melasma in Men: A Hormonal Profile. J Dermatol. 2000 Jan;27(1):64–5.